

**MINUTES OF 3RD MEETING OF THE
WORKING GROUP ON WATER FOOD ENERGY NEXUS (WG-WFE_N)**

5 November 2023, 11:30-13:00 Hours (Session-I)
5 November 2023, 14:00-15:30 Hours (Session-II)
Visakhapatnam (Vizag), Andhra Pradesh State, India

Strategy Theme: Basin

Presented by the Chairman

Year of Establishment: 2021

Completion of the Mandate: 2027

New mandate of the WG:

- (a) to exchange information, knowledge, and experience, as well as networking on the Water-Food-Energy Nexus topic in order to be up to date with new developments, methods and approaches. This can be the basis for a possible position paper on key issues on the nexus.
- (b) to prepare an overview document on the state of the art on improving water use efficiency and productivity within the nexus.
- (c) to produce a document of impact of climate change and possible use of non-conventional less water consuming crops
- (d) to prepare an overview document on the state of the art on model applications as useful management tools for water, crops, field and energy management within the nexus
- (e) to prepare and present reports on case studies on recent developments in the countries that are represented in the WG; and from presented cases of the workshops
- (f) to organize international workshops, seminars or symposia on the Nexus topic.
- (g) to implement ICID 2030 vision

Members Present: (1) Prof. Dr. Ragab Ragab (UK), President, ICID and Chairman; (2) VPH Dr. K.Yella Reddy (India), Vice-Chairman; (3) Dr. Mahdi Sarai (Italy) represented by Dr. (Mrs) Narges Zohrabi; (4) Dr. Chng-Feng, Ding (Chinese Taipei Committee); (5) Dr. Noppadon Kowsuvon (Thailand); (6) Mr. Watchara Suiadee (Thailand); (7) Mr. Chaisri Suksaroj (Thailand) represented by Engr. Chanphit; (8) Mr. Carl Walters (Australia) represented by Mr. John William O' Connor; (9) Mr. Abbas Fadhel (Iraq) represented by Engr. Nisren Sami; and (10) Mr. Basim Tuama (Iraq) represented by Prof. Rafat Nael.

Observers: (i) Engr. Shiuji Fukuda (Japan); (ii) Engr. Keigo Noda (Japan); (iii) Mr. R. Ravi Kiran (India); (iv) Engr. Ali Reza Salamat (Iran); (v) PH Dr. Saeed Nairizi (Iran); (vi) Prof. Ming-Che Hu (Chinese Taipei Committee); (vii) Prof. Sylvester Mpandeli (South Africa); and (viii) Engr. Katsyyuki Shimizu (Japan).

Webpage: https://icid-ciid.org/inner_page/147

WG-WFE-N Minutes Item 1: Action Taken Report by Chair

1. The Chair welcomed the members and briefly presented the report on the actions taken on the decisions and proposals of the working group at its last meeting held in 2022 at Adelaide, Australia

- (a) As decided in Adelaide, the WG has organized one virtual meeting in April 2023 successfully and taken up initiatives for preparing a detailed road map towards achieving the objectives of WG.
- (b) Preparations for organizing the second International Workshop of WG-WFE_N at Visakhapatnam during the 25th ICID Congress, all efforts were made with the help of the Central office.

WG-WFE-N Minutes Item 2: Review of the membership of the WG-WFE_N

2. The WG reviewed the nominations of Turkish National Committee on Irrigation and Drainage (TUCID), Iranian National Committee on Irrigation and Drainage (IRNCID) and the South African National Committee on Irrigation and Drainage (SANCID). The chair informed that the physical presence of the members is required for according the approval; otherwise, any representative from that country shall present and represent on their behalf to get formal approval.

3. The Turkish National Committee on Irrigation and Drainage (TUCID) nominated Engr. Mustafa Demir, Engr. Muhammed Imran Kulat and Dr. Mesut Kocak for membership of WG. However, these nominees were not present physically and nor any representative were attended the WG meeting from Turkey. So, WG accepted their nominations for the membership of the group as provisional members.

4. The Iran National Committee on Irrigation and Drainage (IRNCID) nominated Dr. Behzad Navidi Nassaj for membership of WG. The nominee was not present and Ms Narges (Iran) explained the nominee's significant contributions. As per the provisions available under the ICID, nomination of Dr. Behzad Navidi Nassaj is recommended for provisional membership.

5. The South African National Committee on Irrigation and Drainage (SANCID) nominated Dr. Luxon Nhamo and Prof. Tafadzwa Mabhaudhi for membership of WG. Prof. Tafadzwa Mabhaudhi was present and his membership is recommended as member and Dr. Luxon Nhamo was not present and based on the representation of national committee member (VP Dr. Sylvester) recommended for provisional membership. Membership status is given in **Annex 3, page 31**.

WG-WFE-N Minutes Item 2.1: A brief report of the Virtual / WebEx meeting of WG, 26 April 2023

6. WG Chair Dr. Ragab Ragab (President, ICID) has organized the First Virtual meeting of the group on 26 April wherein nineteen members participated. During the virtual meeting, Chair discussed various activities like new membership, international workshop, three-year rolling plan based on the scoping document for a new WG-WFE_N, contributions from the members of the WG publication (technical report of erstwhile WG-WATER & CROP), updating MTD, presentations by WG members etc. ICID Central Office has been circulated the minutes of the WG to members of the group. Minutes of the virtual meetings of all technical work body have been uploaded on a dedicated webpage - "ICID Workbodies Virtual Meeting" (https://icid-ciid.org/inner_page/152).

7. During the virtual meeting, it was decided to organize WG Webinar on the topic 'Application of Models in WEF-Nexus', preferably in the month of August 2023 based on the mandate of the group. The experts from IIT, Kharagpur; India, South Africa and Australia would be involved in the Webinar. The webinar has been postponed to spring 2024.

8. This virtual meeting was attended by 19 members and discussed the activities of the working group thoroughly.

WG-WFE-N Minutes Item 3: Three-year Rolling Plan based on the Scoping Document for a new WG-WFE_N

9. The Chair outlined that a three-year rolling plan based on the scoping document for a new Nexus Working Group which was circulated among the members for their involvement and active contribution to achieve the objectives of the WG. A brief overview of the WG's activities was presented by the chair, along with details regarding the preparation of a three-year rolling plan for 2021-2023, as well as thanking members for volunteering to participate in various activities. The activity table on 3-year rolling plan of the WG is given as **Annex 1**.

10. The Chair observed that since the deadlines for completion of various activities are fast approaching, all the contributors are requested to submit their reports (about 8 pages) by end of February, 2024 for review and issue of guidelines for the preparation of detailed reports.

WG-WFE-N Minutes Item 4: Road Map to ICID Vision 2030: Activities on Water-Food-Energy-Nexus

11. During the Adelaide meeting and also virtual meeting, WG reviewed the activities such as Goals/Strategies, Actions, Outcomes/Outputs, Milestones and assigning Lead Persons as part of Road Map to ICID Vision 2030 and updated it. The updated status of the progress on Road Map to ICID Vision 2030 of the WG as **Annex 2** As part of the Road Map, the WG informed that International Workshop of the group was conducted successfully on 3rd November 2023 as part of the 25th International Congress of ICID.

WG-WFE-N Minutes Item 5: Multi-functionality of water use in paddy (Rice) cultivation

12. The Working Group has earlier decided to bring out a 'Technical Report' based on papers contributed by its members in areas such as – (i) efficient use of water in crop production; (ii) crop water models; (iii) multifunctional water use in paddy; and (iv) rain water harvesting and energy crops. Further, it was noted that the report would be a consolidation of contributions and collection of information from members on these topics under the mandate of the group. NCs of China, Indonesia, Philippines, and Italy have already made their papers for the 'Technical Report' of the group. While VPH Dr. Reddy, Vice-Chair; Prof. Zeinab Hussein Behairy (Egypt); Dr. P. Soman (India), and Ir. Felipe Dantas (Australia) members of the WG have also shared their papers titled 'Water Use in Paddy Rice Cultivation in India'; 'Rice Story in Egypt'; 'Drip irrigation and fertigation technology for rice production leading to higher water productivity'; and 'Australian Rice Market' as contribution based on the experience as 'multi-functionality of water use in paddy rice cultivation' for inclusion in the Technical Report of the WG. VPH Marco Arcieri, wrote a report titled 'Rice cultivation in the Mediterranean area: Italy case study' of the WG to Chair and copy to ICID Central Office.

13. The Chair informed that the report was finalized and sent to the ICID Central office for arranging to print as per the ICID format. The report is now published on ICID website at https://icid-ciid.org/icid_data_web/25CongWorkshop-ReportNewAdvances.pdf

WG-WFE-N Minutes Item 6: Updating Multilingual Technical Dictionary (MTD)

14. During the Adelaide meeting and also virtual meeting, Chair informed the importance of the Multilingual Technical Dictionary (MTD) and efforts were made. The new terminology like Nexus and related terms shall be included in the MTD for the members benefit for better understanding the concepts. It was noted that Mrs. Narges Zohrabi (Iran) member of the WG, took the responsibility as Coordinator of the MTD of the WG and agreed to coordinate with all members and update MTD with new addition.

15. The Chair informed that Ms. Narges Zoharabi has provided a large list of items to be included in the MTD and found many of them are out of the scope of this WG and pertains to other WGs. Hence requested Ms. Narges to scrutinize and send appropriate list pertaining to WEF-N WG to the Chair and the ICID Central office for enabling them to include in the MTD.

WG-WFE-N Minutes Item 7: International Workshop on ‘The Water-Energy-Food-Nexus: Implementation and Examples of Application’

16. As part of the Action Plan 2030, the WG has organized the International Workshop on the theme ‘The Water-Energy-Food-Nexus: Implementation and Examples of Applications’ on 03 November 2023 from 09:30-11:00 Hours and 11:30- 13:00 Hours during the 25th ICID Congress at Vizag., Andhra Pradesh, India. In April 2023, ICID CO in consultation with the Chair, Vice-Chair and Secretary has circulated the Call for papers of the international workshop of the group to all members of the WG and others for contributing their abstract / paper for the workshop.

17. In response, 21 abstracts have been received from the authors for the WG workshop. The Review Committee of the group has evaluated these abstract and selected 19 abstracts for the full papers and suggested the ICID CO to invite authors to submit full length papers for the WG workshop. Further, ICID CO has received 11 full length papers for the international workshop of the WG.

18. Out of the total 11 listed presentations for the workshop, 7 presentations were made during the session. The authors have made excellent presentations and they were well received and discussed by the participants in the workshop. The study areas and experiences presented in the international workshop are from Morocco, Egypt, South Africa, Zimbabwe, Australia and Iran. The Proceedings are now available on ICID website at : https://icid-ciid.org/icid_data_web/25CongWorkshop-WFE-N.pdf

19. It was decided to organize next International workshop in 2024 as part of the Asian Regional Conference to be held in Sydney, Australia.

WG-WFE-N Minutes Item 8: Publications of the Working Group

20. Considering the publication of the WG, Chair discussed in detail about the 3-year roll plan activity wise of the group at the Adelaide meeting. It was noted that the type of output (Document/Report) possible, contributors, and completion dates. Accordingly, Chair has requested that all contributors work systematically to reach the milestones as per the approved plan.

21. ICID Central Office has prepared the draft Report on New Advances in Water Saving in Irrigation based on the erstwhile Working Group on WATER & CROP. Central Office has incorporated the suggestions/views as informed by President Dr. Ragab for the draft report of the WG. The report has been published on ICID website at: https://icid-ciid.org/icid_data_web/25CongWorkshop-ReportNewAdvances.pdf

WG-WFE-N Minutes Item 9: Exchange of information, knowledge & networking – Website

WG-WFE-N Minutes Item 9.1: Website of the group

22. The Chair informed about the new website which is accessible at https://icid-ciid.org/inner_page/147. Chairman encouraged the members for active participation in the activities of the group and facilitate exchange of information, knowledge, and experience, as well as networking on the topic in order to keep themselves up to date with new developments. Members are also encouraged to provide articles, papers, and presentation made on topics related to the scope of the WG to ICID Central Office for uploading on the website of the group.

23. Chair has presented papers in the Workshop which would be uploaded on the WG website for wider circulation. The proceedings of the Vizag Workshop in November 2023 is available on ICID website at https://icid-ciid.org/icid_data_web/25CongWorkshop-WFE-N.pdf at the same time the Proceedings of the Adelaide 2022 workshop is also available on ICID website at https://icid-ciid.org/icid_data_web/Workshop_WFEN2022.pdf

WG-WFE-N Minutes Item 9.2: Webinar / Web-based Seminar

24. The working group supported the suggestions of organizing webinars to promote sharing of vast experience available with ICID fraternity. Accordingly, the ICID CO requested members to provide their suggestions on the topics, based on the mandate of the WG, on which webinar can be considered along with name of the relevant experts who could be contacted to develop webinars.

25. This year, the technical working groups of ICID have organized several webinars based on the mandate of the group which are available at https://icid-ciid.org/inner_page/66.

26. During the first virtual meeting held in April 2023, it was decided to organize WG Webinar on the topic 'Application of Models in WEF-Nexus', preferably in the month of August 2023 based on the mandate of the group. The experts from IIT, Kharagpur; India, South Africa and Australia would be involved in the Webinar.

27. Vice Chair Dr Reddy informed that the proposed Webinar could not be conducted due to heavy workload in preparations of the 25th ICID Congress. Hence, proposed to organize the same during the spring of 2024.

28. The Chair informed the members present to identify experts from their respective regions and communicate to ICID CO and Co-Chair for inclusion as panelists for making the webinar more appropriate.

WG-WFE-N Minutes Item 9.3: Any other business

29. **ICID Members' Profile Section:** The Chair informed the members about the new initiative of ICID providing WG members to access their profile section using their dedicated account. Further, he informed all members on how to access their account and change their password to maintain accuracy <<https://icid.bmeurl.co/C7D4D2E>>. To maintain accurate information, members are requested to review and update their information using their credentials. The Chair informed all members about the importance of assessing Members' profile for reviewing and continuous updating of their respective information.

30. **Register on World Irrigation and Drainage Schemes (WI&DS):** The Chair encouraged the members to share appropriate data in the context of 'Register on World Irrigation and Drainage Schemes (WI&DS)'. In this regard, ICID was taken an initiative to document the development of irrigation projects in the world by establishing an online Register on "World Irrigation and Drainage Schemes (WI&DS)". WI&DS will fulfil the need for a much-awaited global repository of information in systematic irrigation and agricultural water management. Irrigation projects having 5000 Hectares and above of Gross Command Area can submit their information for inclusion in the register. The irrigation projects approved by National Committee/ ICID Central Office for inclusion are entitled to Certification. Chair encouraged members to urge all irrigation and drainage scheme owners, managers, and researchers across the world and especially in our member countries for contributing to the register. Chair also informed the members that as per ICID Central Office, this facility is also extended to non-member countries if the information is received from an authorized agency. The review process and other details are outlined on the portal <<https://wip.icidevents.org/>> in detail.

31. **Restructuring of the Working Group: Restructuring of the Working Group:** The Chair informed the group that during the 73rd International Executive Council (IEC) meeting in Adelaide, it was decided by the IEC to look into the possibility of integrating WGs of similar/ close mandates. With consultation of PCTA, PCSO, the Secretary General of ICID, and the ICID Central office, a new structure was developed (later was approved by IEC in Vizag). Among the existing 18 groups, nine of them will complete their mandate in November 2023. The remaining working groups proposed to be structured into 11 new working groups under four themes: (1) Irrigation and Drainage (Log-term activities); (2) Natural Resources (Medium-term activities); (3) Climate Change Impact (Medium to long-term activities); (4) Sustainable Development: Capacity Building, History, Institutional and Socio-Economical Aspects of Irrigation and Drainage Schemes. (Long-term activities). The chair informed the members that the proposed restructuring and new structure of the WGs will be deliberated during PCTA and IEC meetings of the 74th IEC meetings (later was approved by IEC in Vizag). Under these four themes, the **WG-WFE_N** Water Food Energy Nexus has been included in theme 2 (Natural Resources). A report on the restructuring of the working groups is given in **IEC Annex 4, page 44**.



Annex 1

THREE YEAR ROLLING PLAN OF THE WG THREE YEAR ROLLING PLAN OF THE WG

S.No.	Activity	Contributors	Output type	Completion date (approx.) mm / yyyy	Remarks
01.	To prepare an overview document on the state of the art on improving water use efficiency and productivity within the nexus	Zeinab Behairy John O'Connor Ragab Man Singh Mahdi Sarai Tabrizi	Document/Report	09/2023	Dr. Vishnu can help with some of the review work together with other colleagues who will be associated with this activity
02.	To produce a document of impact of climate change and possible use of non-conventional less water consuming crops	Ragab Hui LU Marco Arcieri	Document/Report	11/2023	Dr. Ragab *, **
03.	To prepare an overview document on the state of the art on model applications as useful management tools for water, crops, field and energy management within the nexus	John O'Connor Ragab Man Singh Liangsheng Shi Mahdi Sarai Tabrizi Marco Arcieri	Document/Report	10/2023	To prepare an overview document on the state of the art on agricultural intelligence and mobile APP for water, crops and field
04.	To prepare and present reports on case studies on recent developments in the countries that are represented in the WG; and from presented cases of the workshops	Yella Reddy Chung-Feng Ding Peng-Jui Wang Zeinab Behairy Carl Walters (and colleagues) Won-Ho Nam Peng-Jui Wang Mahdi Sarai Tabrizi India: Yella Reddy, Man Singh S. Africa: Sylvester, Sue Walker	Document/Report	10/2023	Carl - Will be pursuing the App Development to support energy, water use decisions and look forward to arranging the presentation and reporting on this at the Workshop with my colleagues
05.	To organize international workshops, seminars or symposia on the Nexus topic. Adelaide, Australia	Ragab & All Carl Walters	Proceedings	October 2022	Completed and published on ICID website.
06.	Internal Presentations: WG meeting, Marrakesh, Morocco CWR assessment in southern Italy	Chung-Feng Ding Peng-Jui Wang Man Singh P. Soman	PPT presentations	November 2021	Part of the workshop 2023 Vizag 2023. CO to collate the presentation and upload them.
07.	International Workshop Presentation Adelaide, Australia	Chung-Feng Ding Peng-Jui Wang Man Singh Won-Ho Nam Peng-Jui Wang P. Soman Hui LU	PPT & Proceedings	October 2022	Completed
08.	WG output publication close to the end of its mandate. Compilation of the different outputs presented in the above activities.	Ragab & ALL	ICID Book	Continuous until December 2026	Draft at earlier date



Annex 2

ROAD MAP TO ICID VISION 2030 – ACTIVITIES OF NEW WG-WEF-N

Goals/ Strategies	Activities	Outcomes/ Outputs	Milestone for Year 2018	Milestone for Year 2019	Milestone for Year 2020	Milestone for Year 2021	Milestone for Year 2022	Milestone for Year 2023	Resolution Lead Person
Strategy 5: Supporting water productivity enhancement	5.3 Develop guidelines on efficient use of water in crop production	Guidelines	Outline of guidelines – introduction	Release the first draft guidelines	Finalise the draft guidelines and publish	Tbc next meeting	Tbc next meeting	Completed. report published in 2023***	Merge Item 5 and B1. Dr Marco Arcieri (Italy)
Strategy B1: Supporting Development of Appropriate Policies	1.13 Technical Report on Efficient Use of Water in Crop Production	Report	Prepare the first draft report for discussion	Release the second draft report	Finalise the draft report and publish	Tbc next meeting	Tbc next meeting	Completed. report published in 2023***	Dr Marco Arcieri (Italy)
Strategy C3: Promoting Regional Cooperation	3.2 International Workshop/seminar on 'Improving Water Productivity in the frame work of Water Energy Food Nexus'	Workshop pro-ceedings	Announce-ment of workshop	Orgnaising Workshop in Canada	Publication of papers in the Special Issue of the Journal	Tbc next meeting	Tbc next meeting	Completed in Adelaide, 2022****	VPH Laurie C Tollefson (Canada)
Strategy D2: Developing Technical Documents in Non-technical Language	2.2 Crop – Water-Energy Nexus	Technical Report		Workshop	Workshop	Tbc next meeting	Tbc next meeting	Tbc next meeting	Dr K Y Reddy (India)
Strategy E2: Strengthening Extension Services with AWM information						Tbc next meeting	Tbc next meeting	Tbc next meeting	Dr Nader Heydari (Iran)
Strategy E3: Developing and Promoting Tools of AWM	3.1 Support research and development of modelling tools	Develop-ment of suitable Models, Sensors, Tools for field use	Prepare action plan	Draft report on various developments	Consolidation and final report	Tbc next meeting	Tbc next meeting	Completed, published in 2023 ***.x ¹	Dr Ragab Ragab
Strategy F3: Technical Training of Young Professionals from Member countries	3.9 Training on Crop Water Models	Conduct Training work-shops & webinars		Training workshops & webinars		Tbc next meeting	Workshop conducted in Adelaide in 2022	Workshop conducted in Vizag in 2023	All Members are responsible.

